

**OPTICAL APERTURE FOR DATA RECORDING HAVING TRANSMISSION  
ENHANCED BY SURFACE PLASMON RESONANCE**

Abstract

Electromagnetic radiation from an optical source is directed onto a metallic structure.

- 5 The metallic structure in turn emits optical output from an emission region in the structure and onto a recording medium (e.g., a magnetic recording disk), thereby heating the medium. The output from the emission region is enhanced due to surface plasmons in the metallic structure. The surface plasmons are generated by an array of features (such as ridges or trenches) in the metallic structure and act to increase the emitted optical output from the emission region beyond  
10 what the emitted optical output from the emission region would be in the absence of these features. The apparatus and associated method are useful for data recording, e.g., thermally assisted data recording.

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